



CONTENTS OF VOLUME 139

Vol. 139A, No. 1

General papers

C.A. Radford, I.D. Marsden and W. Davison	1	Temporal variation in the specific dynamic action of juvenile New Zealand rock lobsters, <i>Jasus edwardsii</i>
D.-Y. Yang, C.-J. Chang, H.-C. Peh and M.-T. Chen	11	Anti-peroxidation effects of vitamin E on low density lipoprotein and milk fat globule membrane of lactating goats: in vivo versus metal ion challenge in vitro
R. Dópido, C. Rodríguez, T. Gómez, N.G. Acosta and M. Díaz	21	Isolation and characterization of enterocytes along the intestinal tract of the gilthead seabream (<i>Sparus aurata</i> L.)
M.L. Wright and N.K. Bruni	33	Influence of the photocycle and thermocycle on rhythms of plasma thyroxine and plasma and ocular melatonin in late metamorphic stages of the bullfrog tadpole, <i>Rana catesbeiana</i>
J.M. Sánchez-Guzmán, A. Villegas, C. Corbacho, R. Morán, A. Marzal and R. Real	41	Response of the haematocrit to body condition changes in Northern Bald Ibis <i>Geronticus eremita</i>
R. Jucá-Chagas	49	Air breathing of the neotropical fishes <i>Lepidosiren paradoxa</i> , <i>Hoplerhynchus unitaeniatus</i> and <i>Hoplosternum littorale</i> during aquatic hypoxia
R.W. Krohmer, D. Martinez and R.T. Mason	55	Development of the renal sexual segment in immature snakes: effect of sex steroid hormones
A.A. Prem Anand and K. Sripathi	65	Digestion of cellulose and xylan by symbiotic bacteria in the intestine of the Indian flying fox (<i>Pteropus giganteus</i>)
D.L. Goldstein and S. Newland	71	Water balance and kidney function in the least shrew (<i>Cryptotis parva</i>)
B.W. Patullo and D.L. Macmillan	77	The relationship between body size and the field potentials generated by swimming crayfish
J.P. Mortola and C. Lanthier	83	Scaling the amplitudes of the circadian pattern of resting oxygen consumption, body temperature and heart rate in mammals
Y. Niizuma and O. Yamamura	97	Assimilation efficiency of Rhinoceros Auklet (<i>Cerorhinca monocerata</i>) chicks fed Japanese anchovy (<i>Engraulis japonicus</i>) and Japanese sand lance (<i>Ammodytes personatus</i>)
J. Halperin, G. Genovese, M. Tresguerres and C.M. Luquet	103	Modulation of ion uptake across posterior gills of the crab <i>Chasmagnathus granulatus</i> by dopamine and cAMP
G.R. Ultsch, E.L. Brainerd and D.C. Jackson	111	Lung collapse among aquatic reptiles and amphibians during long-term diving
M. Fujita	117	Kinematic parameters of the walking of herons, ground-feeders, and waterfowl
	I	Instructions to Authors

General papers

- M. Watanabe, T. Nakano, B. Shiotani,
Y. Matsushima-Hibiya, M. Kiuchi, F. Yukuhiro,
T. Kanazawa, K. Koyama, T. Sugimura and
K. Wakabayashi
- V.A. Centeno, G.E. Díaz de Barboza,
A.M. Marchionatti, A.E. Alisio, M.E. Dallorso,
R. Nasif and N.G. Tolosa de Talamoni
- A.P. Harrison, E.M. Bartels, K.H. Erlwanger,
V.S. Elbrønd, E. Skadhauge and M.A. Unmack
- M.-P. Pagé and R.L. Cooper
- J.H. Roe, W.A. Hopkins, J.W. Snodgrass and
J.D. Congdon
- S.M. Almeida-Santos, I.L. Laporta-Ferreira,
M.M. Antoniazzi and C. Jared
- A. Kaldis, B.G. Atkinson and J.J. Heikkilä
- P. Nieminen, T. Pyykönen, J. Asikainen,
J. Mononen and A.-M. Mustonen
- C.-H. Huang, D.A. Higgs, S.K. Balfry and
R.H. Devlin
- A. Ansart and P. Vernon
- B.K. Speake, J.F. Herbert and M.B. Thompson
- D.C. Jackson, E.M. Rauer, R.A. Feldman and
S.A. Reese
- T.M. Mäkinen, T. Pääkkönen, L.A. Palinkas,
H. Rintamäki, J. Leppäluoto and J. Hassi
- I.G.A. Kiris, O.T. Eroldoğan, M. Kir and
M. Kumlu
- K.M. Hare, S. Pledger, M.B. Thompson,
J.H. Miller, and C.H. Daugherty
- J.E. Cowling, J.M. Weeks, J.I. Spicer
and K.J. Gaston
- 125 Developmental stage-specific expression and tissue distribution of
pierisin-1, a guanine-specific ADP-ribosylating toxin, in *Pieris
rapae*
- 133 Dietary calcium deficiency increases Ca^{2+} uptake and Ca^{2+} extrusion
mechanisms in chick enterocytes
- 143 Effects of antisecretory factor-derived peptides on contractions in
guinea pig colon
- 149 Novelty stress and reproductive state alters responsiveness to sensory
stimuli and 5-HT neuromodulation in crayfish
- 159 The influence of circadian rhythms on pre- and post-prandial
metabolism in the snake *Lamprophis fuliginosus*
- 169 Sperm storage in males of the snake *Crotalus durissus terrificus*
(Crotalinae: Viperidae) in southeastern Brazil
- 175 Molecular chaperone function of the *Rana catesbeiana* small heat
shock protein, hsp30
- 183 Effects of fasting and exogenous melatonin on annual rhythms in the
blue fox (*Alopex lagopus*)
- 199 Effect of dietary vitamin E level on growth, tissue lipid peroxidation,
and erythrocyte fragility of transgenic coho salmon, *Oncorhynchus
kisutch*
- 205 Cold hardiness abilities vary with the size of the land snail *Cornu
aspersum*
- 213 Evidence for placental transfer of lipids during gestation in the
viviparous lizard, *Pseudomoia entrecasteauxii*
- 221 Avenues of extrapulmonary oxygen uptake in western painted turtles
(*Chrysemys picta belli*) at 10 °C
- 229 Seasonal changes in thermal responses of urban residents to cold
exposure
- 239 Influence of neuropeptide Y (NPY) on food intake and growth of
penaeid shrimps *Marsupenaeus japonicus* and *Penaeus semisulcatus*
(Decapoda: Penaeidae)
- 245 Conditioning reduces metabolic rate and time to steady-state in the
lizard *Naultinus manukanus* (Reptilia: Gekkonidae)
- 251 Physiological tolerances of the euterrestrial amphipod *Arcitalitrus
dorrieni* (Hunt) as a key to its geographical distribution? A test using
mesocosms

I Instructions to Authors

Vol. 139A, No. 3

Reviews

- | | | |
|--|-----|--|
| R.K. Buddington and Å. Kroghdahl | 261 | Hormonal regulation of the fish gastrointestinal tract |
| S. Dridi, O. Onagbesan, Q. Swennen, J. Buyse, E. Decuypere and M. Taouis | 273 | Gene expression, tissue distribution and potential physiological role of uncoupling protein in avian species |

General papers

- | | | |
|--|-----|---|
| R. Birkedal and H. Gesser | 285 | Effects of hibernation on mitochondrial regulation and metabolic capacities in myocardium of painted turtle (<i>Chrysemys picta</i>) |
| N. Bennegadi-Laurent, T. Gidenne and D. Licois | 293 | Nutritional and sanitary statuses alter postweaning development of caecal microbial activity in the rabbit |
| J. Tomás, A.J. Geffen, I.S. Allen and J. Berges | 301 | Analysis of the soluble matrix of vaterite otoliths of juvenile herring (<i>Clupea harengus</i>): do crystalline otoliths have less protein? |
| D.J. Marshall, R. Peter and S.L. Chown | 309 | Regulated bradycardia in the pulmonate limpet <i>Siphonaria</i> (Gastropoda: Mollusca) during pollutant exposure: implication for biomarker studies |
| B.C. Peterson, G.C. Waldbieser and L. Bilodeau | 317 | IGF-I and IGF-II mRNA expression in slow and fast growing families of USDA103 channel catfish (<i>Ictalurus punctatus</i>) |
| A.K. Green, S.L. Haley, M.D. Dearing, D.M. Barnes and W.H. Karasov | 325 | Intestinal capacity of P-glycoprotein is higher in the juniper specialist, <i>Neotoma stephensi</i> , than the sympatric generalist, <i>Neotoma albigula</i> |
| J.R. Stewart, T.W. Eay and D.G. Blackburn | 335 | Sources and timing of calcium mobilization during embryonic development of the corn snake, <i>Pantherophis guttatus</i> |
| P. Badino, R. Odore, M.C. Osella, L. Bergamasco, P. Francone, C. Girardi and G. Re | 343 | Modifications of serotonergic and adrenergic receptor concentrations in the brain of aggressive <i>Canis familiaris</i> |
| M.A. Gutowska, J.C. Drazen and B.H. Robison | 351 | Digestive chitinolytic activity in marine fishes of Monterey Bay, California |
| S.J. Fu and X.J. Xie | 359 | Nutritional homeostasis in carnivorous southern catfish (<i>Silurus meridionalis</i>): is there a mechanism for increased energy expenditure during carbohydrate overfeeding? |
| E. Sokółowska, H. Kalamarz and E. Kulczykowska | 365 | Seasonal changes in brain melatonin concentration in the three-spined stickleback (<i>Gasterosteus aculeatus</i>): towards an endocrine calendar |
| W.J. Mautz and M.R. Dohm | 371 | Respiratory and behavioral effects of ozone on a lizard and a frog |
| M. Jefimow, M. Wojciechowski and E. Tęgowska | 379 | Seasonal changes in the thermoregulation of laboratory golden hamsters during acclimation to seminatural outdoor conditions |
| G.R. Wilson, S.J. Cooper and J.A. Gessaman | 389 | The effects of temperature and artificial rain on the metabolism of American kestrels (<i>Falco sparverius</i>) |
| A. Mata and C. Bosque | 395 | Sugar preferences, absorption efficiency and water influx in a Neotropical nectarivorous passerine, the Bananaquit (<i>Coereba flaveola</i>) |

I Instructions to Authors

General papers

- G. Ruiz, M. Rosenmann and A. Cortes 405 Thermal acclimation and seasonal variations of erythrocyte size in the Andean mouse *Phyllotis xanthopygus rupestris*
- E. Ophir, Y. Arieli and J. Marder 411 The effect of α_2 -adrenergic receptors on cutaneous water evaporation in the rock pigeon (*Columba livia*)
- A.H.K. Osman, S. Yuge, S. Hyodo, S. Sato, S. Maeda, H. Marie, T. Caceci, N. Birukawa, A. Urano, K. Naruse, M. Naruse and Y. Takei 417 Molecular identification and immunohistochemical localization of atrial natriuretic peptide in the heart of the dromedary camel (*Camelus dromedarius*)
- P.F. Oliveira, I.A. Lopes, C. Barrias and A.M. Rebelo da Costa 425 H^+ -ATPase of crude homogenate of the outer mantle epithelium of *Anodonta cygnea*
- K.B. Davis 433 Temperature affects physiological stress responses to acute confinement in sunshine bass (*Morone chrysops* \times *Morone saxatilis*)
- P. Ntshotsho, R.J. van Aarde, S.W. Nicolson and T.P. Jackson 441 Renal physiology of two southern African *Mastomys* species (Rodentia: Muridae): a salt-loading experiment to assess concentrating ability
- M. Clauss, A. Schwarm, S. Ortmann, D. Alber, E.J. Flach, R. Kühne, J. Hummel, W.J. Streich and H. Hofer 449 Intake, ingesta retention, particle size distribution and digestibility in the hippopotamidae
- R.P. Guedes, M.I. Marchi, M. Achaval and W.A. Partata 461 Complete sciatic nerve transection induces increase of neuropeptide Y-like immunoreactivity in primary sensory neurons and spinal cord of frogs
- S.k.M. Rahman and T. Uehara 469 Interspecific and intraspecific variations in sibling species of sea urchin *Echinometra*
- R.D. Oliveira, J.M. Lopes, J.R. Sanches, A.L. Kalinin, M.L. Glass and F.T. Rantin 479 Cardiorespiratory responses of the facultative air-breathing fish jeju, *Hoplerhythrinus unitaeniatus* (Teleostei, Erythrinidae), exposed to graded ambient hypoxia
- I.Y. Mahmoud, J.R. Paulson, M. Dudley, J.S. Patzlaff and A.Y.A. Al-Kindi 487 Secretory proteins in the reproductive tract of the snapping turtle, *Chelhydra serpentina*
- A.J. Tierney, M.A. Greenlaw, K. Dams-O'Connor, S.D. Aig and A.M. Perna 495 Behavioral effects of serotonin and serotonin agonists in two crayfish species, *Procambarus clarkii* and *Orconectes rusticus*
- J.C. del Valle, A.A.López Mañanes and C. Busch 503 Phenotypic flexibility of digestive morphology and physiology of the South American omnivorous rodent *Akodon azarae* (Rodentia: Sigmodontinae)
- J. Juśkiewicz and Z. Zduńczyk 513 Effects of cellulose, carboxymethylcellulose and inulin fed to rats as single supplements or in combinations on their caecal parameters
- M. Xie, C. Zhang, W. Zeng and Y. Mi 521 Effects of follicle-stimulating hormone and 17β -estradiol on proliferation of chicken embryonic ovarian germ cells in culture
- M. Caprioli, A. Krabbe Katholm, G. Melone, H. Ramlov, C. Ricci and N. Santo 527 Trehalose in desiccated rotifers: a comparison between a bdelloid and a monogonont species

**S.M. Rankin, M.A. Innocenti, C.A. Eicher
and D. Furst**

533 The effect of ventral nerve cord severance and male castration on female mating behavior, clutch size, and maternal care in the ring-legged earwig

I Contents of Volume

VII Subject Index

XI Author Index

XIII Instructions to Authors



